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Listing of Claims

Please amend claims 19 and 20 as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (previously presented): A roof structure for covering a roof substrate, comprising:

a roof substrate having a sloped upper surface;

a waterproof membrane having an upper side and a lower side that is substantially free of fleece material;

a moisture curing substantially non-volatile adhesive comprising a silyl-terminated polymer disposed on at least a portion of said lower side of said waterproof membrane in contact with said upper surface of said roof substrate and bonding said waterproof membrane to said roof substrate to define a portion of a low slope roof of a building structure, wherein the adhesive has sufficient viscosity to form beads on the sloped roof substrate upon extrusion of the adhesive onto the sloped upper surface of the roof substrate.

Claim 2 (previously presented): The roof structure of claim 1, wherein:

said silyl-terminated polymer comprises a silyl-terminated polyether.

Claim 3 (previously presented): The roof structure of claim 1, wherein:

said waterproof membrane comprises a layer of PVC material.

Claim 4 (previously presented): The roof structure of claim 1, wherein:

said waterproof membrane comprises a layer of EPDM rubber.

Claim 5 (previously presented): A roof deck structure, comprising:

a rigid low slope roof structure adapted to be supported at least in part by the walls of a building, said low slope roof structure having a roof substrate defining a sloped upper surface;

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a waterproof membrane having an upper side and a lower side;

a moisture curing silyl-terminated polymer based adhesive disposed on at least a portion of said lower side in contact with said upper surface of said roof substrate, and bonding said waterproof membrane to said upper surface of said roof substrate, wherein the adhesive has sufficient viscosity to form beads on the sloped roof substrate upon extrusion of the adhesive onto the sloped upper surface of the roof substrate.

Claim 6 (previously presented): The roof deck structure of claim 5, wherein:
said polymer comprises a silyl-terminated polyether.

Claim 7 (previously presented): The roof structure of claim 5, wherein:
said waterproof membrane comprises a layer of EPDM rubber that does not include fleece backing material.

Claim 8 (previously presented): A roof deck structure, comprising:
a rigid low slope roof structure including a roof substrate having a sloped upper surface;
a waterproof flexible membrane covering said roof substrate, and defining a lower surface;
a moisture curing substantially non-volatile adhesive comprising a silyl-terminated polymer in contact with the upper surface of the roof substrate and the lower surface of the flexible membrane to thereby bond the flexible membrane to the roof substrate.

Claim 9 (previously presented): The roof deck structure of claim 8, wherein:
the adhesive comprises a silyl-terminated polyether based adhesive.

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Claim 10 (previously presented): The roof deck structure of claim 9, wherein:
the flexible membrane includes a layer of fleece matting on one side; and wherein:
at least a portion of the adhesive is disposed in the fleece.

Claim 11 (previously presented): The roof deck structure of claim 10, wherein:
the flexible membrane comprises a layer EDPM rubber having a thickness of about
0.040-0.070 inches thick.

Claim 12 (previously presented): The roof deck structure of claim 11, wherein:
the fleece matting has a thickness of about 0.040-0.080 inches.

Claim 13 (previously presented): The roof deck structure of claim 8, wherein:
the flexible membrane is bonded to the roof substrate and has a bond strength of at least
one hundred sixty-five pounds per square foot.

Claim 14 (previously presented): The roof deck structure of claim 13, wherein:
the adhesive has a viscosity prior to curing of about 200,000 to 300,000 centipoise.

Claim 15 (previously presented): The roof deck structure of claim 8, wherein:
the roof substrate comprises fiberglass reinforced gypsum board.

Claim 16 (previously presented): A roof deck structure, comprising:
a rigid low slope roof structure including a roof substrate comprising fiberglass
reinforced gypsum board;
a waterproof flexible membrane covering said roof substrate;

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a moisture curing substantially non-volatile adhesive disposed between the roof substrate and the flexible membrane to thereby bond the flexible membrane to the roof substrate; and wherein:

the roof deck structure includes a layer of foam insulation below the fiberglass reinforced gypsum board.

Claim 17 (previously presented): A roof deck structure, comprising:

a rigid low slope roof structure including foam insulation forming a roof substrate;
a waterproof flexible membrane covering said roof substrate;
a moisture curing substantially non-volatile adhesive disposed between the roof substrate and the flexible membrane to thereby bond the flexible membrane to the roof substrate;
a fluted steel deck below the foam insulation; and
moisture curing adhesive bonding the foam insulation to the steel deck without the use of mechanical fasteners.

Claim 18 (previously presented): The roof deck structure of claim 17, including:

moisture curing adhesive bonding the foam insulation to the steel deck.

Claim 19 (currently amended): The roof deck structure of claim 18, wherein:

the adhesive includes a silyl-terminated polymer.

Claim 20 (currently amended): The roof deck structure of claim 18, wherein:

the adhesive includes an oxyalkylene polymer having at least one reactive silyl group at each end of the polymer molecule.

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Claim 21 (previously presented): A roof deck structure, comprising:

- a fluted steel deck having a plurality of elongated upper deck surfaces;
- a substantially rigid panel disposed on the steel deck, the panel defining upper and lower surfaces;
- moisture-curing adhesive disposed between the steel deck and the substantially rigid panel in contact with the upper deck surfaces and the lower surface of the substantially rigid panel; and
- a flexible waterproof membrane disposed above the substantially rigid panel.

Claim 22 (previously presented): The roof deck structure of claim 21, wherein:
the substantially rigid panel comprises insulation board.

Claim 23 (previously presented): The roof deck structure of claim 22, including:
a layer of fiberglass reinforced gypsum board disposed between the insulation board and the waterproof membrane.

Claim 24 (previously presented): The roof deck structure of claim 23, including:
moisture curing adhesive adhesively securing the fiberglass reinforced gypsum board to the insulation board.

Claim 25 (previously presented): The roof deck structure of claim 23, including:
moisture curing adhesive securing the waterproof membrane to the fiberglass reinforce gypsum board.

Claim 26 (previously presented): The roof deck structure of claim 21, wherein:
the waterproof membrane comprises a fleece-backed material.

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Claim 27 (previously presented): The roof deck structure of claim 21, wherein:
the waterproof membrane comprises a fleece-backed PVC material.